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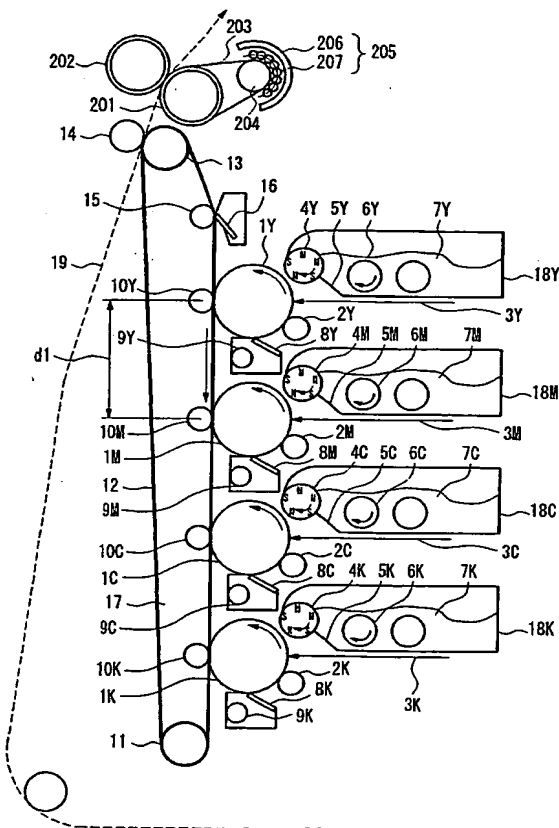
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2002 年 10 月 30 日 (30.10.2002) JP
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- (81) 指定国 (国内): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI,

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(54) Title: TWO-COMPONENT DEVELOPER AND METHOD OF FORMING IMAGE THEREWITH

(54) 発明の名称: 二成分現像剤及びこれを用いた画像形成方法



(57) Abstract: A two-component developer comprising a toner, the toner comprising a carrier coated with a resin composition, the resin composition comprising an aminosilane coupling agent and a fluorinated silicone resin, and a wax selected from among those of the following A to D. This two-component developer realizes high OHP light transmission, offset prevention and prolonged service life. (A) synthetic wax of 80 to 120°C endothermic peak temperature in DSC analysis and 5 to 80 mgKOH/g acid value obtained by reacting of a C<sub>4</sub>-C<sub>30</sub> long chain alkyl alcohol, an unsaturated polyhydric carboxylic acid or anhydride thereof and an unsaturated hydrocarbon wax. (B) ester wax of 50 to 120°C endothermic peak temperature in DSC analysis, 25 or less iodine value and 30 to 300 saponification value. (C) fatty acid amide wax selected from among C<sub>16</sub>-C<sub>24</sub> aliphatic amide waxes and alkylene bis-fatty acid amides from saturated or 1 to 2-hydric unsaturated fatty acids. (D) fatty acid ester wax selected from among hydroxystearic acid derivatives, glycerol fatty acid esters, glycol fatty acid esters and sorbitan fatty acid esters.

[続葉有]



NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

OAPI 特許 (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

添付公開書類:

— 国際調査報告書

(84) 指定国 (広域): ARIPO 特許 (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), ユーラシア特許 (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), ヨーロッパ特許 (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR),

2文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

(57) 要約:

本発明の二成分現像剤は、アミノシランカップリング剤とフッ素変性シリコーン樹脂を含む樹脂組成物で被覆したキャリアと、下記A～Dから選ばれるワックスを含むトナーとからなり、高いOHP透光性とオフセット防止、長寿命化を可能とする。A. 炭素数4～30の鎖状アルキルアルコール、不飽和多価カルボン酸又はその無水物及び不飽和炭化水素系ワックスとの反応により得られDSC法による吸熱ピーク温度80℃～120℃、酸価5～80mg KOH/gの合成ワックス。B. DSC法による吸熱ピーク温度50～120℃、ヨウ素価25以下、けん化価30～300のエステル系ワックス。C. 炭素数16～24の脂肪族アミド系ワックス及び飽和または1～2価の不飽和脂肪酸のアルキレンビス脂肪酸アミドから選ばれる脂肪酸アミド系ワックス。D. ヒドロキシステアリン酸誘導体、グリセリン脂肪酸エステル、グリコール脂肪酸エステル及びソルビタン脂肪酸エステルから選ばれる脂肪酸エステル系ワックス。

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13519

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl<sup>7</sup> G03G9/097, G03G9/113, G03G15/06, G03G15/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> G03G9/097, G03G9/113, G03G15/06, G03G15/08

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Jitsuyo Shinan Toroku Koho	1996-2003
Kokai Jitsuyo Shinan Koho	1971-2003	Toroku Jitsuyo Shinan Koho	1994-2003

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2002-169324 A (Konica Corp.), 14 June, 2002 (14.06.02), Full text & US 20020064401 A & EP 1211570 A	1-21
Y	JP 2000-10337 A (Matsushita Electric Industrial Co., Ltd.), 14 January, 2000 (14.01.00), Full text & US 20010086229 A & CN 1246659 A	1-21
Y	JP 2002-23429 A (Fujitsu Ltd.), 23 January, 2002 (23.01.02), Full text & US 20020064724 A	1-21

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search  
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Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

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## INTERNATIONAL SEARCH REPORT

International application No.

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	JP 2002-14489 A (Matsushita Electric Industrial Co., Ltd.), 18 January, 2002 (18.01.02), Full text (Family: none)	1-21
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Y	JP 2002-296829 A (Konica Corp.), 09 October, 2002 (09.10.02), Full text (Family: none)	2-21
Y	JP 2002-311784 A (Konica Corp.), 25 October, 2002 (25.10.02), Full text (Family: none)	2-21
Y	JP 2001-209209 A (Tomoegawa Paper Co., Ltd.), 03 August, 2001 (03.08.01), Full text (Family: none)	2-21
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Y	JP 2001-249511 A (Canon Inc.), 14 September, 2001 (14.09.01), Full text (Family: none)	19-21